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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-------------------------------|------------------|
| 10/004,582 | 12/04/2001 | Stuart T. Linsky | 22-0144 | 5148 |
| 30050 | 7590 | 10/24/2003 | | |
| PATENT COUNSEL, TRW INC. S & E LAW DEPT. ONE SPACE PARK, BLDG. E2/6051 REDONDO BEACH, CA 90278 | | | | |
| | | | EXAMINER KINKEAD, ARNOLD M | |
| | | | ART UNIT 2817 | PAPER NUMBER |

DATE MAILED: 10/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | | |
|------------------------------|--------------------------------------|--|--------------------------------------|--|
| Office Action Summary | Application No. 10/004,582 | | Applicant(s) LINSKY ET AL. | |
| | Examiner Arnold M Kinkead | | Art Unit 2817 | |
| | | | | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on ____.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-26 is/are pending in the application.

4a) Of the above claim(s) ____ is/are withdrawn from consideration.

5) ☐ Claim(s) ____ is/are allowed.

6) ☒ Claim(s) 1-26 is/are rejected.

7) ☐ Claim(s) ____ is/are objected to.

8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. ____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.

4) ☐ Interview Summary (PTO-413) Paper No(s). ____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: *[Signature]*

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DETAILED ACTION

Drawings

1. Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated.

See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office

action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: on page 6, line 3, " phrase" should be

-- phase--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. The following lack proper antecedent basis:

In claim 1, lines 3,5,7,9,15, and 16 " said baseband complex samples;

In claim 1, lines 11 and 16, " the first baseband complex samples" ; and on line 15, " the group of baseband complex samples" .

In claim 2, line 2, " the baseband complex samples" .

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In claim 6, line 3, " the composite decoded codeword phase error" and also, what is the " reference" ?

In claim 7, line 1, " said current phase estimate" .

In claim 8, line 1, " said current phase estimate" .

In claim 10, line 6, " the first data symbols" .

In claim 12, line 2, " the composite decoded codeword" . What is the " reference" ?.

In claim 13, line 2, " the first data symbol of modulated signal" .

In claim 15, line 2, " the QPSK ambiguity resolution" .

In claim 16, line 2, " the QPSK ambiguity resolution" .

In claim 17, line 1, " said preselected codewords" ; on line 2, " the set of associated codewords" . A

period is missing from the end of this claim.

In claim 18, line 4, " said input modulated signal" , see lines 7, 10, 13.

On line 11, " said phase locked loop" ;

On line 12, " said incoming phase" ;

On line 20, " said phase error estimate" and " said block decoder" ;

On line 22, " the first data symbols" ;

On line 25, " said inner block decoder" ; and " with symbols" ;

On line 26, " the group of data symbols" and " the first data symbols" .

In claim 22, line 2, " the set of associated codewords" .

In claim 24, line 2, " the phase error estimate" and " the composite decoded phase error" ; also, what is

the " reference" ?

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In claim 25, line 2, " the codewords" and " said set of associated codewords" .

In claim 26, line 2, " said input modulated signal" and on line 3, " the input modulated signal" .

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thornton*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-9 and 18-26 of the present application are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9, 18-25 and 27 of copending Application No. 10/004,581. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims (1-9) for the decision directed PLL in the present application covers the same features as claims 1-9) in ' 581, albeit more descriptive of the outer block decoder codeword selection; this selector is claimed in the ' 581 application. In light of the above it would have been obvious to one of ordinary skill in the art to have recognized that the present claims cover essentially the same dd-PLL as recited in claims ' 581 albeit without specific mention of the selector circuit to allow for codeword selection.

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With regard claims 18-26(of the present application), the same situation exists when compared to claims 18-25 and 27 of ' 581; i.e., with regards the recitation of the operation of the selective circuit in the present application and the specific reference to such a selection of the codewords by the second block decoder.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

8. Claims 1-9, 10-17 and 18-26 of the present application are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9, 10-17, 18, 20-26 of copending Application No. 10/004,773. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims (1-9)for the decision directed PLL in the present application covers the same features as claims1-9) in ' 773, albeit a bit broader in scope for example, there is no recitation for storing of the samples received by the phase detector as claimed claim 1 of the ' 773 application. In light of the above it would have been obvious to one of ordinary skill in the art to have recognized that the present claims cover essentially the same dd-PLL as recited in claims ' 773 albeit without specific mention of the sample storing. This is required for the data to be run backwards.

With regard claims 10-17(of the present application), for a demodulator, these are merely broader in scope than the ' 773 claims 10-17, i.e. no mention of specific " QPSK" waveform as done in independent claim 10 of ' 773; i.e., one of ordinary skill in the art would have recognized that the demodulator does broadly cover quadrature type signals such as QPSK; claim 15 brings this into the present application.

This is the same for claims 18-26 of the present application and the claims 18, and 20-26 of ' 773.

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This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnold M Kinkead whose telephone number is 703-305-3486. The examiner can normally be reached on Mon-Fri, 8:30 am -5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on 703-308-4909. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Arnold M Kinkead
Primary Examiner
Art Unit 2817

Arnold Kinkead
Oct. 8, 2003